YELLOW-HEADED BLACKBIRD (*Xanthocephalus xanthocephalus*)

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Criteria Scores

Population Trend	Range Trend	Population Size	Range Size	Endemism	Population Concentration	Threats
15	10	5	5	0	0	15

Special Concern Priority

Currently considered a Bird Species of Special Concern (breeding), priority 2. Not included on CDFG's (1992) unpioritized list or the original prioritized lists (Remsen 1978).

Breeding Bird Survey Statistics for California

1966-1999					1966-1979			1980-1999			
Trend	*P*	*n*	(95% CI)	R.A.	Trend	*P*	*n*	Trend	*P*	*n*	**Credibility**
-2.8	0.40	39	-9.1, 3.6	2.98	-0.7	0.94	24	-0.7	0.83	32	**med**

General Range and Abundance

Monotypic. Breeds widely across western Canada and the United States (Twedt and Crawford 1995, Jaramillo and Burke 1999). Patchily distributed in the southwestern portion of its breeding range. Migrates broadly across western North America, to reach wintering grounds largely in western and northern Mexico (Jaramillo and Burke 1999). Greatest densities are found in regions with large and productive marshes, particularly in the eastern Prairies and Great Plains (Twedt and Crawford 1995).

Seasonal Status in California

Occurs as a migrant and summer resident from April to early October**;** breeding season extends from mid-April to late July. Adult males leave the breeding grounds early in the season (from early July) and may congregate in large roosting flocks. It is important not to confuse these as local breeders, since they may be migrants from outside the area. Small numbers winter mainly in the southern Central Valley and the Imperial Valley.

Historical Range and Abundance in California

Grinnell and Miller (1944) described the Yellow-headed Blackbird as a "common summer resident to eastward" but "less common west of the Sierra Nevada and sparse along the coast, " occurring from sea level to 6600 feet (2011 m). Grinnell and Miller (1944) noted population level decreases in California "In southern California especially, numbers have decreased in last twenty years because of drainage of marshes." No quantitative estimates of historic abundance exist.

East of Cascades/Sierra range. Historic breeding locations include Bray, Siskiyou County; Goose lake ans Surprise Valley, Modoc County; Pit River, Shasta County; Feather Lake, Eagle Lake, Petes Valley and Red Rock P.O., Lassen County; Lake Tahoe, Eldorado County; Lone Pine, Inyon County; Bear Lake, San Bernardino County; and San Jacinto Lake, Riverside County; Grinnell and Miller (1944).

Central Valley. Grinnell and Miller (1944) list the following breeding sites: Marshes of Sacramento Valley and vicinity of city of Sacramento; Los Baños, Merced County; Fresno district; Tulare Lake, Kings County; Buena Vista Lake and Bakersfield, Kern County;

Coast. Coastally, breeding occurred in counties near San Francisco Bay, and in the southern part of the state from Santa Barbara, south at least to Los Angeles County. Grinnell and Miller (1944) list the following breeding sites: Sebastopol, Sonoma County; Pinole, Contra Costa County; Irvington, Alameda County; San Jose and Santa Clara, Santa Clara County; Goleta, Santa Barbara County; Nigger Slough, Los Angeles County. San Diego County is given as a breeding locality, but lacking confirmation. It was said to breed in considerable numbers in the marshes south of San José (Van Denburgh 1899). There are two clutches of eggs from Hayward, Alameda County from 1911 in the California Academy of Sciences.

Colorado and Imperial Valleys. Grinnell and Miller (1944) list the following breeding sites: California Swamp, near Potholes, Imperial County.

Recent Range and Abundance in California

The general outline of the breeding range today remains largely unchanged, although local extirpations and population decreases have been noted. Small (1994) notes, "populations in the San Joaquin Valley have declined precipitously in recent years due to marsh drainage, controlled irrigation and the proliferation of agriculture." Crase and DeHaven (1972) estimated the breeding population to be less than 2500 birds in 1972. They felt that populations in the 1970s were not greatly changed since Grinnell and Miller 1944. Furthermore, the only colonies with more than 100 individuals they detected where in Riverside, Imperial, Fresno, Lake, and Lassen counties (Crase and DeHaven 1972).

East of Cascades/Sierra range. In California, the species is locally numerous in the Klamath Basin, Modoc Plateu and Mono Basin. Small colonies are known from Sierra County at Sierra Valley, and Kybruz Flat (B. Williams pers. comm.). Shuford and Metropulos (1996) confirmed breeding in 17.6% of 74 atlas blocks in the Glass Mountain region, Mono County. In the eastern, desert, portion of Kern County they primarily breed in an artificial marsh in a California City urban park, but are sometimes present in nearby wetlands (M. Heindel pers. comm.).

Central Valley. As there are no historic estimates of abundance, its difficult to assess if declines in this region have been considerable. However, since this species breeds only in deep water marshes, the 90% loss in wetlands in the Central Valley (Frayer et al. 1989) have likely had an adverse effect on the breeding distribution and abundance of this species. It is still present both in the Sacramento and San Joaquin Valleys, but appears to be nowhere abundant. All of the wildlife refuges in the Sacramento Valley have nesting colonies: Sacramento NWR in Glenn County, Delevan NWR in Colusa County, Gray Lodge NWR in Butte County, Sutter NWR in Sutter County and the Davis Wetlands and Vic Fazio Wildlife Area in Yolo County. They breed in the valley portion of Butte County in scattered locations, with colonies usually numbering 5-6 per site, but as

high as 15 for some colonies (Jim Snowden pers. comm.). Placer County has only one small colony SW of Sheridan (Brian Williams pers. comm.). It is a confirmed breeder in 6 block of the Sacramento County Breeding Bird Atlas. Yolo County, usually two small (5-30 nests) colonies are present per year, but they shift in general location with some colonies being present only in wetter years (S. Hampton pers. comm.). Yellow-headed Blackbirds breed in San Joaquin County, with few colonies known, the largest being of 15 pairs (David Yee and Waldo Holt pers. comm.). Perhaps it breeds in Stanislaus, but this is not confirmed (Harold Reeve and Jim Gain, unpublished data). Also recent breeding recorded in Fresno, and Madera counties (Fresno Audubon Society, Bruce Webb unpublished data). No numbers are available from Fresno County, where in 1971 there was a colony of 100 individuals S of Mendota (Crase and DeHaven 1972). In Kings County, it is an intermittent breeder now usually absent from that county's portion of the Tulare Lake Basin where it once bred (Luke Cole pers. comm.). Breeds at Lake Buena Vista, and the Kern NWR (Old Tulare Lake basin) in Kern County, but are dependent on appropriate water levels (M. Heindel pers. comm.).

Coast. No confirmed recent breeding in the San Francisco Bay region, but there are two breeding records in the last twenty years. The species nested at Coyote Hills Regional Park, Alameda County in 1985 (Bob Richmond pers. comm.), and 10 pairs were nesting at American Canyon Creek, Napa County in 1991 (AB 45:1160). Atlas projects in Alameda and Contra Costa Counties have noted possible or probable breeding in a total of three atlas blocks. However, recently territorial males have been observed near Oakley, Contra Costa County but nesting has gone unconfirmed (Steve Glover pers. comm.). The Yellow-headed Blackbird is now extirpated from Santa Clara County, where "sausal" habitat in which they bred historically has been entirely eliminated (Mike Rogers pers. Comm.). There are no breeding records in Santa Clara County since the end of the 19th century (W.Bousman pers comm). In the southern coastal region, nests in several

sites in northern Los Angeles County, and recently discovered nesting in southwestern most San Diego County.

Colorado and Imperial Valleys – Colonies in the Coachella Valley and particularly Ramer Lake in Imperial County were the largest detected in the state in a 1971 survey with 300 and 500 adults estimated respectively (Crase and DeHaven 1972). At Ramer Lake, 75 territorial males were counted in 1963, the total number of adults was not given (Willson 1966).

Ecological Requirements

Yellow-headed Blackbirds breed almost exclusively in marshes with tall emergent vegetation such as Tules (*Scirpus spp*.) or Cattails (*Typha spp*.). A key element is that nesting occurs only in emergent vegetation over deeper water (Orians and Willson 1964). Bent (1958) gives preferred water depth between 2 and 4 feet (0.61 – 1.21 m), and notes that if water recedes such that unfinished nests are over dry land they are likely to be abandoned. The nests are placed in dense emergent vegetation, and are fabricated from the vegetation itself. Due to the need for deeper water, breeding marshes tend to be on the edges of water bodies such as lakes, reservoirs or larger ponds.

Overall, forages on seeds and to a minor extent insect material (Twedt and Crawford 1995). However during breeding season, adults shift to foraging primarily on insects, and feed young almost entirely on aquatic insects such as damselflies (Zygoptera) (Willson 1966, Orians 1980). Forages within breeding territory if resource abundance is high, otherwise forages on uplands, often agricultural fields.

Territorial when food resources are available within the territory, otherwise can be loosely colonial when food is obtained outside of the territory (Twedt and Crawford 1995). In addition, the species is highly polygynous, so within a male territory there may be between 1 and 6 females. Mean territory size ranges from 42 m^2 in a cattail Marsh at Ramer Lake, Imperial County to 116 m^2 in a cattail marsh in Westmorland, Imperial County (Willson 1966). Studies in Washington State

have documented much greater mean territory sizes (455 to 4071 m^2), it is not known if northern California territories are more similar to these values. However, territory size is greater in situations where foraging takes place within the territory. In the Imperial County marshes that were studied, the birds fed away from the marsh in nearby agricultural lands, hence the generally small territories. In Yolo county, small colonies (5-30 nests) may occupy small marshes of only 4046 m^2 (1 acre) in area (S. Hampton pers. comm.).

Threats

Habitat loss, primarily wetland drainage due to irrigation, flood control, or water diversion schemes are the main threats to this species. Yellow-headed Blackbirds are sensitive to water depth at their breeding marshes, and even a lowering without full drainage of the wetland may adversely affect breeding. Yellow-headed Blackbirds forage at their breeding marsh if they are sufficiently productive; otherwise they forage in uplands, predominantly farmland. This exposes this species to potential harm from pesticides. Granular carbamates may be gleaned by birds, and aerial-applied pesticides may drift into breeding colonies; the first causing adult mortality, the latter nestling mortality (Twedt and Crawford 1995). The interactions of pesticides and the Yellow-headed Blackbird have not been studied in California.

Management and Research Recommendations

- Protect large, deep-water marshes; concentrating on those that are at least one meter in depth under emergent stands of *Typha* or *Scirpus*.
- Focus on the enhancement and restoration of suitable wetlands for breeding. In particular, large historically important ones such as Tulare Lake, and Buena Vista Lake.
- Managers of wetland refuges where the species breeds, should take into account the deep water needs of these birds.

- Initiate studies on the effects of pesticides on Yellow-headed Blackbirds, in the Central Valley.

Monitoring Needs

The Breeding Bird Survey is moderately adequate for monitoring population changes in this species. In the Central Valley, where wetlands are often near roads this survey method is likely more effective than in eastern California where the major portion of breeding Yellow-headed Blackbirds are found. Their highly polygynous breeding strategy adds another complication in that most visual monitoring methods are apt to find the visually striking and vocal males but not necessarily the females. Since male numbers are not necessarily correlated with female numbers, fluctuations in the number of males may or may not reflect population level changes.

The patchy, and often colonial nature of the distribution of this species lends itself to targeted colony counts as have been conducted for Tricolored Blackbirds (Beedy and Hamilton 1997). A database of recent breeding sites should be constructed, using input from published data as well as from the public. Using this database, historical breeding sites (colonies) should be visited in May to early June to verify that the colony still exists, and to estimate the number of adults present. All or a random sample of breeding sites should be surveyed every 3-5 years. Roads should be driven near known colonies, with the aim of detecting new colonies.

Using satellite imagery, the amount of potential breeding habitat in the state should be assessed. Periodically, the exercise should be repeated, particularly in very wet years and dry years to assess natural variation in habitat availability in the state. In the long term, trends in potential habitat as assessed using these techniques should be determined.

Acknowledgments

Thanks to William Bousman, Luke Cole, Steve Glover, Steve Hampton, Matt Heindel, Waldo Holt, Bob Richmond, and Mike Rogers, Jim Snowden, John Sterling, John Trochet, Brian Williams, and David Yee, for sharing their knowledge of this species with me.

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